

It's a dock, a preamp, a DAC, a transmitter...

+

It may seem a little strange devoting a review to an accessory. That, after all, is what the Questyle Super Hub SHB 2 is. It's a docking station, as we used to say, for Questyle's high-quality and high-res-capable QP2R portable audio player. But it's well worth looking at, as together they form what Questyle calls a 'Super Source System'.

Equipment

We reviewed Questyle's fine \$1999 QP2R portable player last year, and you can ponder at leisure our full review by visiting avhub.com.au/qp2r. But to recap briefly, the QP2R operates much like an upmarket version of the iPod classic. There's a display, but it isn't touch-sensitive. Instead, you spin your finger around a touch-sensitive ring on the front panel to select music. The music resides on the unit's 64GB of internal storage, plus on a microSD card you can insert of up to 200MB. It supports regular and balanced headphones and has a USB Type-C socket on the bottom for charging the internal battery and for transferring music to (and from) the unit.

So of course there's a USB Type-C plug fitted into the SHB 2. This is in the middle of a cradle that holds the QP2R player in a position where it is canted slightly backwards. The cradle closely hugs the player, so there's very little stress on the plug or socket. That's good design, since they are the most fragile parts of most modern equipment.

This dock sits in a solid slab of equipment, some 330mm wide, 220mm deep and less than 60mm tall, apart from where the cradle

rises above the body of the unit. There are three old-fashioned (or 'classic', if you prefer) toggle switches on the front panel. One is for power, one is to switch on the USB DAC function. And one is to switch on the 5GHz wireless module.

That wireless module allows the unit to transmit music wirelessly to a Questyle wireless receiver. This we didn't have for review, but since it adds an additional and potentially highly handy additional ability to this Super Hub, we've covered this in a separate panel opposite.

Returning to the switches, each has an amber LED above it to indicate its status. I found the up-is-on arrangement slightly disconcerting, though others also follow this arrangement (some Yamaha amplifiers, for example) and indeed it makes sense — better if accidents happen that things get switched off rather than on.

There are also four press buttons. Three of those are transport controls for the Questyle player when it's in the dock. There's also a button for cycling through the sources, plus a volume control. A small amber-on-black display shows the volume setting, the input selected, and the sampling rate of the current digital audio. By 'sampling rate' I mean the sampling frequency for PCM or DSD64, DSD128 or DSD256 as appropriate.

Questyle
Super Hub SHB 2
high-res dock/preamp/DAC

Docking preamp/
DAC with a 5GHz
wireless transmitter...
Meet Questyle's
high-res workhorse.

SUMMARY

Questyle Super Hub SHB 2

with QP2R high-res portable player

Price: \$2999 or \$4599 with QP2R

- + Excellent companion to Questyle portable players
- + Balanced XLR outputs for high quality analogue delivery
- + Useful pro audio features
- Issues delivering DSD using DoP from computer
- HF truncation of 96kHz signals



This provides assurance that you have your computer player software correctly set up.

There are two more controls underneath the unit, both recessed 'dip' switches. One can disable the front volume control, which would probably be a preferred mode of operation for those who would rather control levels with a separate hi-fi amplifier. Though pleasingly an infra-red remote control is included with the unit, so you may find it convenient to leave the volume control operational to make the most of this.

The other dip switch sets the analogue output maximum level. The default is labelled 14dBu, and that's suitable for home equipment use. The unbalanced output is rated at 2.16V with this setting, or 4.343V for the balanced outputs. At the higher 20dBu setting — more suited to studio equipment — the respective figures are 4.038V and 8.121V.

Round the back, the Super Hub is revealed as being more than a mere dock, also a preamp/DAC capable of receiving and controlling other sources. There is a USB Type-B socket for using the unit as a USB Audio Class 2.0 device receiving from a computer. There is an optical input and a coaxial digital input, even an RCA pair for the stereo analogue input.

Questyle says that the unit will support up to 384kHz, 32-bit PCM and 11.2MHz DSD (that's four times standard DSD) via the USB Type-B connection. It loses DSD256 capability with the player connection.

There are several ways you can connect the Super Hub through to your main audio system. The most obvious is via the analogue outputs available on both RCA plugs and balanced XLR. There are also digital outs: coaxial digital and studio-style AES/EBU via an XLR connection, so you could use a preferred DAC next down the line. Plus there's that wireless connection available (see panel).

There is no headphone output — but for the QP2R, at least, you'd just undock the player and plug headphones straight in.



Meanwhile, over at the hi-fi system...

You can connect the Super Hub SHB 2 directly to your main audio system for playback, and with the supplied remote control you can navigate the player without having to get up and press its actual control dial. But how about keeping the whole Super Hub near your listening location for local control, and sending the music wirelessly to your main system? That's possible thanks to the Super Hub's inclusion of a 5GHz wireless transmitter, and the existence of the \$2299 CMA Twelve receiver unit pictured above. This is a DAC, preamp and headphone amplifier — indeed it is Questyle's flagship DAC/headphone amp, and its name celebrates the 12 years since the invention of the Current Mode Amplification with which it, previous flagships, and the preamplifier of the SuperHub have all been equipped. It has analogue

inputs plus USB, coaxial, optical and AES/EBU digital inputs, and a preamplifier output for your power amplifier which can, as on the Super Hub, be switched to fixed output. It also has three headphone outputs, including the risingly popular 4.4mm balanced headphone output.

Then there's that 5GHz receiver, which can play from a remote Super Hub 2 entirely wirelessly. Why would you subject that lovely high-res audio output to a wireless connection? Because this is a dedicated wireless path (Questyle went as far as securing its own frequency from the FCC in the United States), and is capable of transmitting as high as DSD256 wirelessly. This adds an additional layer of versatility to a full system of Questyle 'Master' electronics. For more on the CMA Twelve, see: www.questyle.com/en/product/CMA-twelve

Performance

In the box with the unit is a manual, of course, along with an 8cm CD containing the manual and Windows drivers for the unit. Installation of these was straightforward. I did my listening with content from the QP2R player plus from two different Windows computers, and a Mac Mini. It's worth looking at these separately.

First, the QP2R player. The Questyle Super Hub SHB 2 proved to be a great way of getting music out of the unit and into my sound system. The player charges when in place, except when you're playing back music. It automatically stops charging at those times to, it says, preserve audio quality. I loaded the player up with a little MP3 stuff, a fair bit of FLAC material in

CD format, a lot more high resolution FLAC and several albums worth of DSD. Every single bit of it played back perfectly, cleanly and to the highest audible quality.

My frequency response measurement of the Hub's output when playing from the QP2R with 44.1kHz material showed the response extending to over 20kHz before any significant falling away. But when I tested with 96kHz, it still fell away at around 22kHz. Likewise with 192kHz. It's a sign of the relative superfluity of these frequencies that this couldn't be picked by listening, but it's an odd result that Questyle might wish to check.

Manipulating the touch-sensitive ring is a little hard once the player is docked, but the remote control was very effective and obviated the need to actually touch the unit. In short, if you have a QP2R portable player, you're going to be very pleased with the Questyle Super Hub SHB 2.

Now, let's dig into the unit's function as a USB audio device for a computer. After all, even the 264GB maximum storage available on a player can be limiting (I have nearly a terabyte of music on my server). With a computer, this unit can provide unlimited high quality playback for all your content.

But it turned out that the unit was really quite picky. First, it turned out that the supplied Windows driver would support 16- and 24-bit audio up to 192kHz, but not to





Outputs

Balanced and unbalanced analogue outputs or digital coaxial or AES/EBU outputs can feed the output through to your hi-fi. There's also the wireless option...

Inputs

The preamp/DAC section of the SHB 2 has unbalanced analogue and USB-B, optical and coaxial digital inputs, plus the docking hub itself.

5GHz wireless transmitter

The SHB 2 can send wirelessly to the Questyle CMA Twelve, allowing you to keep the Super Hub (or the Twelve) at your listening position.

384kHz, nor did it support 32-bit audio. However the driver included ASIO (Audio Stream Input/Output) which mostly bypasses the various Windows processes. (WASAPI was limited to 192kHz and 24 bits as well.) Using ASIO, I could play content up to 384kHz with 24 bits of resolution, and 96kHz with 32 bits of resolution.

I note that the Mac Mini reported that the unit supports up to 768kHz sampling! — also at 24 bits, not 32.

I generally use Foobar 2000 on my Windows computers for high quality audio playback because it gives excellent control and is highly configurable. If you configure it properly, you can be certain of bit-perfect playback.

But the Super Hub seemed to have trouble with my DSD files, 'buzzing' on them in what was clearly some kind of decoding problem. I kept switching between this unit and my standard DAC to make sure everything was okay, and

everything was with that one. I moved to the Mac Mini and had the same problem. On the Mac I was using Audirvana Plus player.

I raised it with the distributor and I was told that there had been no such problem at their end, but they'd been using JRiver Media Center software on Windows 7. So I installed that (on Windows 10) and the noise went away. DSD became sweet and pure, as lovely as it had been from the Questyle player.

So why? I opened up the control panel installed by the Questyle driver and I noted that when I played DSD from Foobar 2000 the sampling rate was reported as 176.4kHz. But when I played it back from JRiver, it was reported at 2.8MHz. That was the clue I needed. JRiver was playing the DSD direct. Foobar was packaging it up in the more traditional way, disguising it as PCM. This is known as DoP — DSD over PCM. It's still bit-perfect, and it can get around certain impediments imposed by some versions of USB. DoP was also the format being used by Audirvana Plus on the Mac. So it was clear

that the unit worked beautifully with Direct DSD, but had issues with DoP. Some careful configuration of components with Foobar 2000 changed it from DoP to direct, and then it worked perfectly as well.

Once all was working, the music was as delightful delivered by PC as it had been playing from the Questyle portable player. Except for one difference — the unit seemed to lock on to the digital signal after a delay of a second or two, so that the very start of many tracks was missing. Paying close attention to the front display, it seemed that the unit abandoned lock whenever it was being fed any significant length of 'digital zero'. (This also prevented my usual objective measurement methods.)

Conclusion

The Questyle Super Hub SHB 2 is likely to be of most interest to those who have already discovered Questyle, and/or who have the QP2R player already. But if you want to move into portable high-resolution audio along with a high-quality and convenient way of using it with your main audio system, the whole package of Super Hub plus player and perhaps plus that wireless receiver is definitely a solution that is worth investigating, for it yields fine results indeed. — *Stephen Dawson*

▼ The QP2R high-res portable player in its alternate gold livery. You can read our full review at avhub.com.au/qp2r



SPECS

Questyle Super Hub SHB 2 \$2999 (\$4599 with QP2R)

Inputs: 1 x USB-C (for Questyle player), 1 x USB-B, 1 x coaxial digital, 1 x optical digital audio, 1 x stereo audio (2 x RCA)

Outputs: 1 x stereo audio (2 x RCA), 1 x stereo audio (2 x balanced XLR), 1 x coaxial digital, 1 x AES/EBU digital audio (balanced XLR),

Digital formats via USB-B: PCM 16 to 32 bits, 44.1kHz to 384kHz; DSD @ 2.8, 5.6 & 11.2MHz, Native and DoP (see text)

Digital formats from connected Questyle player: PCM 16 to 32 bits, 44.1kHz to 384kHz; DSD @ 2.8 & 5.6MHz, Native

Digital formats via S/PDIF & AES/EBU: PCM 16 to 24 bits, 32kHz to 192kHz

Dimensions (whd): 330 x 81 x 220mm

Weight: 3.3kg

Contact: Audio Dynamics

Telephone: 03 9882 0372

Web: www.audiodynamics.com.au